

Caprellidæ From Laguna Beach, II

R. LA FOLLETTE

Three genera are included, among them, two new species. Four species were considered in an earlier number of this publication, making a total of seven species of the family Caprellidæ from Laguna. Although the territory accessible at low tide was very thoroughly worked over, yet no doubt several more species could be secured in the deeper water off shore by dredging, and the list of forms is not yet complete.

Caprella acutifrons Latreille

Mayer in his description of the Caprellidæ of the Siboga Expedition, gives as many as ten varieties under the species name *acutifrons*. Among them the variety, *verrucosa*, which includes several specimens from California, is quite similar to my specimens here described, but I think it best to only use the species name *acutifrons* at present.

The peraeon of the male (Plate I, Fig. 1), is covered with several blunt prominences and many short blunt tubercles, the latter as in *C. geometrica*. Cephalon with a short horizontal spine; first segment of body a little shorter than the next three, which are of equal length; fifth about as long as the first; sixth and seventh shorter, respectively. The branchia are ovate, slightly longer than broad and moderate in size. Both pairs of antennæ missing in my specimen. Eyes small and round. First gnathopod small, about one-fourth as large as the second and attached far forward; palm broad, triangular shaped, tapering toward the finger with a few scattered hairs along the border and four tooth-like spines at the base; finger finely toothed along the inner margin. Second gnathopod (Fig. 2) attached about the middle of the second segment, basal joint short and thick, equal in length to the other joints combined; palm broad and toothed as in *C. geometrica*; inner margin slightly concave and armed with a few short hairs and a large prominent tooth at the base and a large flat tooth at the distal extremity; finger short and massive. Third, fourth and fifth peræpods (Fig. 1), similar in

shape and structure, being stout and covered with many short blunt tubercles and a few scattered hairs; palm narrow, concave and armed with two serrate teeth at the base; finger short and stout.

Length of specimen, 12 mm. Color a light brown to flesh color.

One male specimen collected from among the seaweed of the inner tide pools at Laguna Beach in July, 1914.

Caprella uniforma n. sp.

The peraeon of the female (Plate I, Fig. 3) is smooth; cephalon furnished with a slight prominence in front directed horizontally. First segment short, about half as long as the second, third, fourth and fifth, which are of nearly equal length; sixth and seventh much shorter, about a third as long as the fifth, the seventh being the shorter of the two. Superior antennæ about half as long as the first two body segments; first joint as long as cephalon and twice as broad as the second joint, which is nearly twice as long as the first; third joint not as thick as the second and one-third as long. Flagellum equal in length to the peduncle and composed of eleven segments. Inferior antennæ but slightly shorter than the superior, furnished with many plumose hairs. Eyes large and round. First gnathopod (Fig. 4) attached anterior to the base of the maxillipeds, large but slightly smaller than the second gnathopod; palm narrow, inner margin finely denticulate, armed with many scattered hairs and four blunt teeth at the base; claw broad and armed with many fine teeth along the inner margin. Second gnathopod (Fig. 5) but slightly larger than the first; basal joint long, longer than the palm; palm narrow, armed with a few hairs and two blunt teeth near the margin, the longer on the margin, and the shorter posterior to it; finger narrow and short. Branchia ovate. Third, fourth and fifth peraeopods (Fig. 3), similar in structure and increasing in size respectively, the fifth being nearly a third longer than the third; hand narrow, armed with two serrate teeth at the base and a few hairs; claw short and sharp.

Length 14 mm.

Color, a light brownish green. The male specimens taken were quite similar to the female, including the shape of body segments and gnathopods.

Several specimens taken from a holdfast cast upon the beach at Laguna during July, 1914.

Æginella hirsuta n. sp.

In the adult male the peraeon (Plate II, Fig. 6) is smooth and devoid of a horizontal spine; first two segments short and of equal length although the second is the thicker; third and fourth equal in length and nearly twice as long as the second; fifth longer than the fourth but not as thick; sixth and seventh a fourth as long as the fifth, decreasing in size respectively. The superior antennæ are only half as long as the body; first joint a little longer than the cephalon; second joint longer than the first but not as thick; third joint only half as long as the second and half as thick; flagellum two-thirds as long as the peduncle and made of 16 segments. Inferior antennæ about as long as the peduncle of the superior and armed with many long hairs on the dorsal surface; flagellum two-jointed. Mandible (Fig. 10) made up of a strong cutting plate with five unequal teeth and a large rounded secondary plate with a few short prominences; several feathery hairs lie between the two plates and the mandible is supplied with a three-jointed palp. The first gnathopod (Fig. 12) is small and attached far forward; palm broad, nearly as wide at the base as the tip and armed with two spine-like teeth at the base and a few scattered hairs; edge finely toothed; claw medium and toothed with many small and a few regular teeth. Second gnathopod (Fig. 7) attached far forward on the second body segment; first joint longer than the others combined; palm long and narrow and armed with a small toothed lobe at the base and another larger tooth a little posterior; margin thickly covered with many long hairs; finger long, curved and also lined with many hairs along the inner margin. Fig. 8 shows the second gnathopod of a younger specimen, 10 mm. long; the palm is thicker, the inner margin not as regular in outline and armed with fewer hairs, while the finger is shorter than in the adult. Fig. 9 is the second gnathopod of a still younger specimen, 7 mm. long; the palm is much shorter and thicker and the inner margin lacks the second spine at the base and has a few blunt prominences at the posterior extremity and but few hairs; the finger is similar in shape to that of the adult. The third, fourth and fifth peraeopods (Fig.

11), are similar in shape, being long and narrow; the third is somewhat shorter than the fourth and fifth; hand narrow and armed with a few hairs along each margin and two spine-like teeth at the base; finger long and sharp.

Length of adult male, 2 cm.

Color a light yellowish brown with a few brown spots.

Two adult specimens were taken at Laguna Beach in July, 1914, about a quarter mile off shore while dredging. Several specimens of the young, both male and female (Fig. 13), were collected from among the Rhodophyceæ in shallow pools at low tide. They were dark red in color like the seaweed and resemble the adults in every respect except those mentioned above and the antennæ, the superior pair being but slightly longer than the inferior; flagellum with but six to eight joints; inferior pair reaching to the last two joints of the flagellum of the superior.

Paedaridium breve n. sp.

Peraeon (Plate III, Fig. 14) comparatively smooth; cephalon devoid of a horizontally directed spine, and skull-shaped; neck very short; first three body segments of nearly equal length and rather stout; fourth segment about twice as long as the third and narrowing at the caudal end; fifth and sixth segments a little longer than the fourth and about half as broad; seventh about one-fourth as long as the sixth and narrow. Superior antennæ (Fig. 16), only slightly longer than the first body segment; first segment short and stout; second about twice as long and narrower; third shorter than the second; flagellum made up of two joints and armed with a few short hairs at the distal extremity. Inferior antennæ (Fig. 16) devoid of motor seta, nearly as long as the superior and fitted with a two-jointed flagellum. Mandible (Fig. 15) with a three-jointed palp armed with a few hairs; six irregular teeth on the mandible plate, three of which are large, the first being split into two divisions. Branchia on the third and fourth segments, ovate. Eyes small and round. First gnathopod (Fig. 17) attached far forward on the first segment; first joint long and narrow, longer than the palm; wrist broad; palm similar in shape to that of the second gnathopod and armed with two heavy spines at the base and numerous hairs

along the margin. Second gnathopod (Fig. 18) twice as large as the first and attached far forward on the second segment; first joint as long as the hand; palm broad and slightly convex on both margins, armed with three short, heavy spines on a slight prominence at the base and many hairs along the inner margin; finger reaching to the spiny prominence on the palm and uniform in outline. First peraepod attached at the base of the gill on the third body segment and made up of three small joints. Second peraepod attached at the base of the gill on the fourth segment and composed of but one short segment. Third peraepod (Fig. 14) attached just posterior of the center of the fifth body segment and composed of three segments; the first two of equal length, third very short; total length 1 mm. Fourth and fifth peraepods (Fig. 14) normal, having proper number of segments and of nearly equal length; palm and claw as long as the other segments of the peraepod combined; palm narrow, armed with a few regularly placed spines; finger but slightly curved.

Length 3 mm.

Color light pink to white.

Several specimens collected from the seaweeds at low tide, Laguna Beach, July, 1914.

(Contribution from the Zoological Laboratory of Pomona College)

EXPLANATION OF PLATE I.

C. acutifrons

- Figure 1. Body showing length of segments and fifth peraeopod $\times 16\frac{2}{3}$.
Figure 2. Second gnathopod $\times 50$.

C. uniforma

- Figure 3. Body of female showing branchia and peraeopods $\times 16\frac{2}{3}$.
Figure 4. First gnathopod $\times 50$.
Figure 5. Second gnathopod $\times 50$.

EXPLANATION OF PLATE II.

A. hirsuta

- Figure 6. Body of male $\times 25$.
Figure 7. Second gnathopod of adult male $\times 25$.
Figure 8. Second gnathopod of younger form $\times 25$.
Figure 9. Second gnathopod of still younger form $\times 75$.
Figure 10. Mandible and palp $\times 300$.
Figure 11. Fifth peraeopod $\times 25$.
Figure 12. First gnathopod adult $\times 25$.
Figure 13. Body of young female $\times 75$.

EXPLANATION OF PLATE III.

Paedaridium breve n. sp.

- Figure 14. Body showing length of segment and peraeopods $\times 25$.
Figure 15. Mandible $\times 300$.
Figure 16. Antennæ $\times 25$.
Figure 17. First gnathopod $\times 75$.
Figure 18. Second gnathopod $\times 75$.
Figure 19. Fifth peraeopod $\times 75$.